

76° CONGRESSO NAZIONALE

PROSSIMITÀ E ORGANIZZAZIONE DELLE CURE:

LA MEDICINA GENERALE DI DOMANI TRA DEMOGRAFIA E CRONICITÀ

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Metis

**PERCORSI SIMP e SV PER UN
AMBULATORIO DEGLI STILI DI VITA**

Dolore e
alimentazione

Ketolearning

Eùpraxia

Cherubino DI LORENZO

 **Fondazione
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SAPIENZA
UNIVERSITÀ DI ROMA

7- 12 OTTOBRE 2019 - Tanka Village - Villasimius (CA)

**SIMP
e SV**

Società Italiana di Medicina
di Prevenzione e degli Stili di Vita

Outline della presentazione

- L'alimentazione come fattore di scatenamento delle crisi emicraniche
- L'alimentazione come possibile strategia preventiva nell'emicrania
- La dieta chetogenica nell'emicrania



Trigger alimentari

- L'alimentazione è da sempre indicata come un possibile trigger per le crisi emicraniche, sia negli adulti che nei bambini. Ciò è ampiamente documentato in Letteratura, da molteplici studi (quasi tutti retrospettivi)
- C'è la suggestione che alcuni alimenti potrebbero scatenare le crisi a causa di una loro azione simil farmacologica
- Elementi confondenti in tal caso sono: (1) la presenza di un craving prodromico la crisi; (2) la stasi gastrica / nausea associate al dolore; (3) la diffusa convinzione che l'emicrania sia sempre conseguente ad un problema digestivo



Original

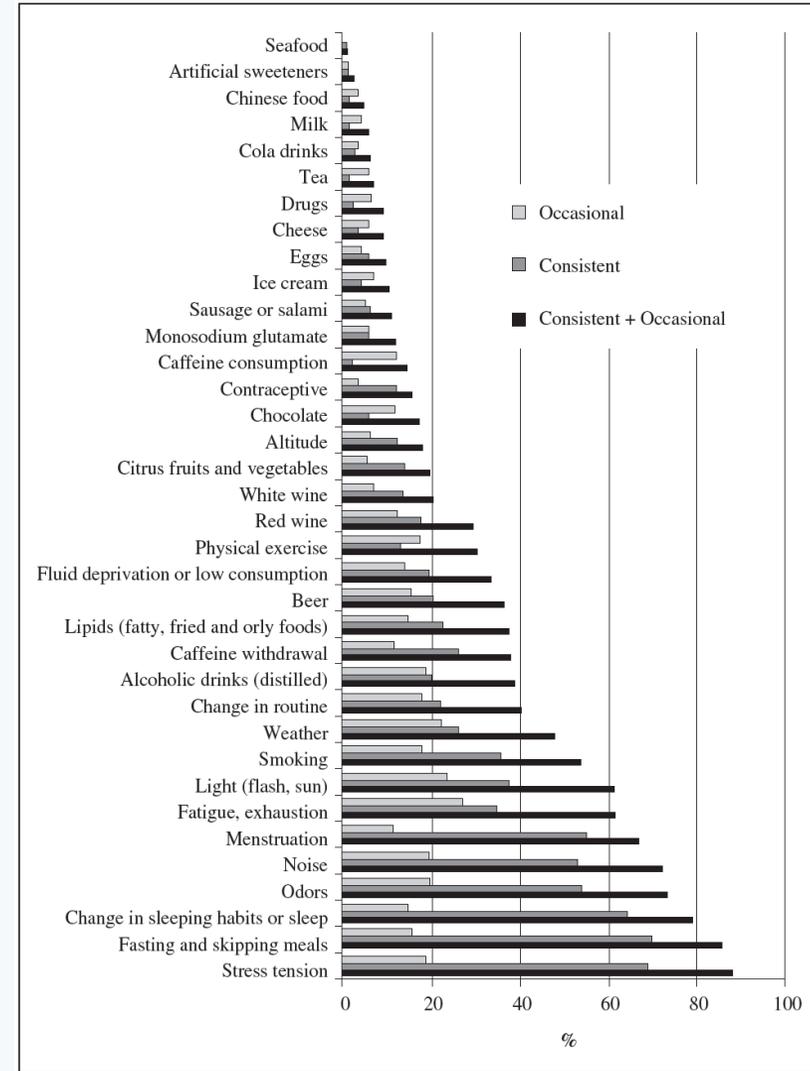
Perceived migraine triggers; do dietary factors play a role?

F. Camboim Rockett^{1,2}, K. Castro¹, V. Rossoni de Oliveira¹, A. da Silveira Perla³, M. L. Fagundes Chaves³
and I. D. Schweigert Perry^{1,4}

Trigger alimentari

(Studio prospettico)

- Il primo trigger alimentare è il digiuno
- Il più frequente trigger alimentare che dà costantemente crisi emicraniche è l'alcol (20% dei casi)
- Alcuni alimenti di uso comune, come gli agrumi, sembrerebbero esser trigger più potenti di altri comunemente considerati tali (cioccolata, salumi, glutammato, caffeina, ecc...) il cui effetto è in realtà irrisorio.



Effect of exclusion of frequently consumed dietary triggers in a cohort of children with chronic primary headache

Sepideh Taheri

Nutrition and Health
2017, Vol. 23(1) 47-50
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Trigger alimentari

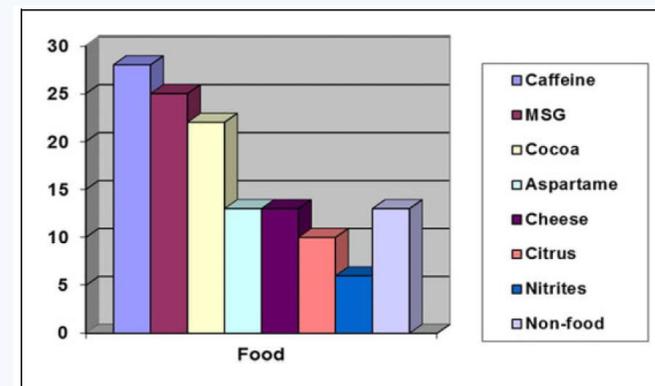
(Studio prospettico)

- In 150 bambini, della cui emicrania i genitori erano convinti dipendesse da trigger alimentari, fu chiesto di sospendere l'assunzione degli alimenti incriminati al fine di valutare l'efficacia di tale esclusione.
- La risposta all'esclusione dei cibi trigger fu molto scarsa. I tassi di risposta più alti, comunque oscillanti tra il 20 e il 30%, si registrarono in coloro che esclusero caffeina (sic!), glutammato e cacao.

Table 1. Number of patients with identified dietary triggers of headache.

Food	Number (%)
Caffeine	28 (28)
MSG	25 (25)
Cocoa	22 (22)
Aspartame	13 (13)
Cheese	13 (13)
Citrus	10 (10)
Nitrites	6 (6)
Tomato	1 (1)

MSG: monosodium glutamate

**Figure 1.** Graphic presentation of numbers of responders to food elimination versus non-responders. MSG: monosodium glutamate

Effect of chocolate in migraine: a double-blind study

A. M. MOFFETT, M. SWASH, AND D. F. SCOTT

From the Section of Neurological Sciences, The London Hospital, London

Trigger alimentari

(Riabilitiamo la cioccolata)

- Già nel 1974 uno studio in doppio cieco individuava la cioccolata come blando fattore di scatenamento per l'emicrania.
- Infatti, in una popolazione di 25 soggetti emicranici che avevano indicato la cioccolata come fattore di scatenamento della propria cefalea furono somministrati ripetutamente cioccolato o placebo per vedere, in due esperimenti distinti, se la cioccolata realmente scatenasse le crisi.
- Furono registrate soltanto 13 crisi su 80 assunzioni complessive di cioccolato, 8 dopo placebo. Solo in 2 pazienti su 25 vi fu una costanza di crisi in risposta all'assunzione di cioccolata.

TABLE 1
HEADACHES AFTER CHOCOLATE AND PLACEBO*

	Chocolate only	Placebo only	Both
<i>Study 1</i> 11 subjects failed to respond with a headache to either	8	5	1
<i>Study 2</i> 5 subjects failed to respond with a headache to either	5	3	1

* 1. Cadbury-Schweppes Samples, 25 subjects. 2. London Hospital Samples, 15 subjects.

TABLE 2
RESPONSE TO CHOCOLATE AND PLACEBO IN THE 15 SUBJECTS WHO TOOK PART IN BOTH STUDIES 1 AND 2

<i>Study 1</i>	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Subject	-	-	-	-	-	-	+	+	+	+	+	-	-	-	-
Chocolate	-	-	-	-	-	-	+	+	+	+	+	-	-	-	-
Placebo	-	-	+	-	-	+	-	-	-	-	-	-	-	-	-
<i>Study 2</i>															
Chocolate	+	-	-	-	+	+	+	+	-	-	-	-	-	-	+
Placebo	+	-	-	+	-	-	-	-	+	+	-	-	-	-	-

Migraine +. No response -.



Dieta ed emicrania

- Ci sono numerosi studi prospettici e retrospettivi che cercano di evidenziare un'associazione tra un determinato regime dietetico e la prevenzione delle crisi emicraniche.
- La maggioranza degli studi è fallata da diversi errori metodologici.
- In particolare, negli studi prospettici spesso manca una comparazione adeguata, o uno «sham» che si possa definire come tale; inoltre, alcune diete (vedi «intolleranze alimentari») non hanno un presupposto attendibile a giustificarne l'uso.
- Occorre ricordare che la dietoterapia ha sempre un effetto placebo maggiore di una qualsiasi terapia farmacologica (non c'è l'approccio passivo del dover ingerire la pasticca, ma un approccio attivo nel modificare lo stile di vita).



Dieta vegana ed Eemicrania

(Studio prospettico)

- In questo studio la dieta vegana sembrerebbe essere utile nel migliorare la cefalea, ma la comparazione non è stata fatta con un'altra dieta, bensì con un integratore alimentare.
- Ciò rende il dato poco generalizzabile, come ammesso dagli stessi autori.

Bunner et al. *The Journal of Headache and Pain* 2014, 15:69
<http://www.thejournalofheadacheandpain.com/content/15/1/69>

 The Journal of Headache and Pain
a SpringerOpen Journal

RESEARCH ARTICLE

Open Access

Nutrition intervention for migraine: a randomized crossover trial

Anne E Bunner^{1*}, Ulka Agarwal², Joseph F Gonzales¹, Francesca Valente¹ and Neal D Barnard^{1,3}

Abstract

Background: Limited evidence suggests that dietary interventions may offer a promising approach for migraine. The purpose of this study was to determine the effects of a low-fat plant-based diet intervention on migraine severity and frequency.

Methods: Forty-two adult migraine sufferers were recruited from the general community in Washington, DC, and divided randomly into two groups. This 36-week crossover study included two treatments: dietary instruction and placebo supplement. Each treatment period was 16 weeks, with a 4-week washout between. During the diet period, a low-fat vegan diet was prescribed for 4 weeks, after which an elimination diet was used. Participants were assessed at the beginning, midpoint, and end of each period. Significance was determined using student's t-tests.

Results: Worst headache pain in last 2 weeks, as measured by visual analog scale, was initially 6.4/10 cm (SD 2.1 cm), and declined 2.1 cm during the diet period and 0.7 cm during the supplement period ($p=0.03$). Average headache intensity (0–10 scale) was initially 4.2 (SD 1.4) per week, and this declined by 1.0 during the diet period and by 0.5 during the supplement period ($p=0.20$). Average headache frequency was initially 2.3 (SD 1.8) per week, and this declined by 0.3 during the diet period and by 0.4 during the supplement period ($p=0.61$). The Patient's Global Impression of Change showed greater improvement in pain during the diet period ($p<0.001$).

Conclusions: These results suggest that a nutritional approach may be a useful part of migraine treatment, but that methodologic issues necessitate further research.

Trial registration: Clinicaltrials.gov, NCT01699009 and NCT01547494.

Keywords: Migraine; Headache; Nutrition; Diet; Plant-based; Vegan



Esclusione delle amine vasoattive ed Eemicrania

(Studio prospettico)

- In uno studio prospettico di confronto tra due diete, una sham, l'altra di esclusione dell'assunzione di amine vasoattive, risultò che non c'era differenza tra i due gruppi: miglioravano entrambi!
- Ciò mostra quanto sia importante avere una buona dieta di confronto per poter estrapolare un dato.

Archives of Disease in Childhood, 1987, **62**, 458-460

Controlled study of exclusion of dietary vasoactive amines in migraine

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Department of Paediatrics, Rotherham District General Hospital, and Sheffield Children's Hospital

SUMMARY To assess the effects of dietary vasoactive amines in the aetiology of childhood migraine, 39 children were randomly allocated to either a high fibre diet low in these substances or a high fibre diet alone. Both groups of children showed a significant decrease in the number of headaches and there was no significant difference between the two groups.

Dietary vasoactive amines have not been shown in this study to influence childhood migraine. The improvement seen in both groups emphasises the need for a control diet in studies designed to show that dietary manipulation improves disease.

Feeding regimen

Diet A				Diet B			
Case No	No of attacks		% Improvement	Case No	No of attacks		% Improvement
	Eight weeks' assessment	Eight weeks' on diet			Eight weeks' assessment	Eight weeks' on diet	
1	27	0	100	1	6	0	100
2	6	1	80-89	2	9	0	
3	5	1		3	6	0	
4	14	3	70-79	4	33	6	80-89
5	4	1		5	17	3	
6	21	7	60-69	6	18	4	70-79
7	5	2		7	8	2	
8	10	4	60-69	8	8	3	60-69
9	43	17		9	35	16	
10	7	3	50-59	10	12	6	50-59
11	4	2		11	12	6	
12	6	3	40-49	12	6	4	30-39
13	15	9		13	13	9	
14	20	12	30-39	14	7	5	20-29
15	8	5		15	13	10	
16	17	11	20-29	16	15	12	0
17	25	17		17	11	11	
18	17	13	Worse	18	4	4	Worse
19	8	14		19	30	42	
20	5	14					
Total	267	139		263	143		



Allergie alimentari ed Eemicrania

(Studio prospettico)

Total IgE, specific IgE and prick-tests against foods in common migraine-a prospective study

A. Pradalier, S. Weinman, J. M. Launay, J. F. Baron and J. Dry

CEPHALALGIA

Pradalier, A., Weinman, S., Launay, J. M., Baron, J. F. & Dry, J. 1983 09 01: Total IgE, specific IgE and prick-tests against foods in common migraine-a prospective study. *Cephalalgia*, Vol. 3, pp. 231-4. Oslo. ISSN 0333-1024.

A prospective study of total IgE, specific IgE against 12 common foods, and prick-tests with 11 common food allergens was performed on 50 consecutive migraine sufferers. Total IgE levels were found above 100 kU/l for seven patients, but five of them were atopic. Prick-tests and PAST were positive for four and six patients (class 1), respectively. Food challenge on these six patients did not cause any migraine attacks. This study thus indicates a very low frequency of allergic dietary migraine to common foods. • *Food allergy, IgE migraine.*

- Le allergie alimentari sono diagnosticabili mediante la ricerca di anticorpi IgE specifici.
- Già negli anni '80 si era evidenziato che la ricerca di tali anticorpi non desse luogo a risultati eclatanti nella popolazione emicranica, portando a ritenere che il ruolo di tali allergie nella genesi emicranica fosse pressoché nullo.
- Allo stesso modo, diete volte ad escludere tali allergeni non avevano motivo d'essere.



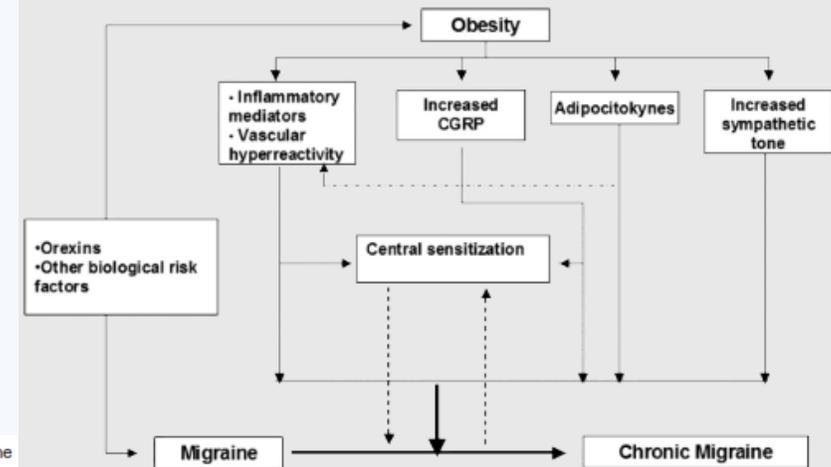
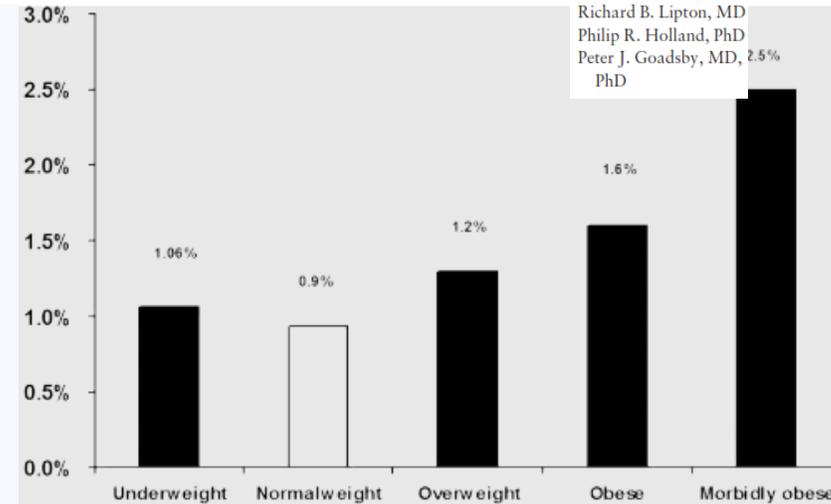
Peso, Dimagrimento ed emicrania

- Il dimagrimento potrebbe di per sé migliorare l'emicrania, quindi qualunque dieta che migliori il peso potrebbe migliorare anche la cefalea.

Obesity, migraine, and chronic migraine

Possible mechanisms of interaction

Marcelo E. Bigal, MD, PhD
Richard B. Lipton, MD
Philip R. Holland, PhD
Peter J. Goadsby, MD, PhD



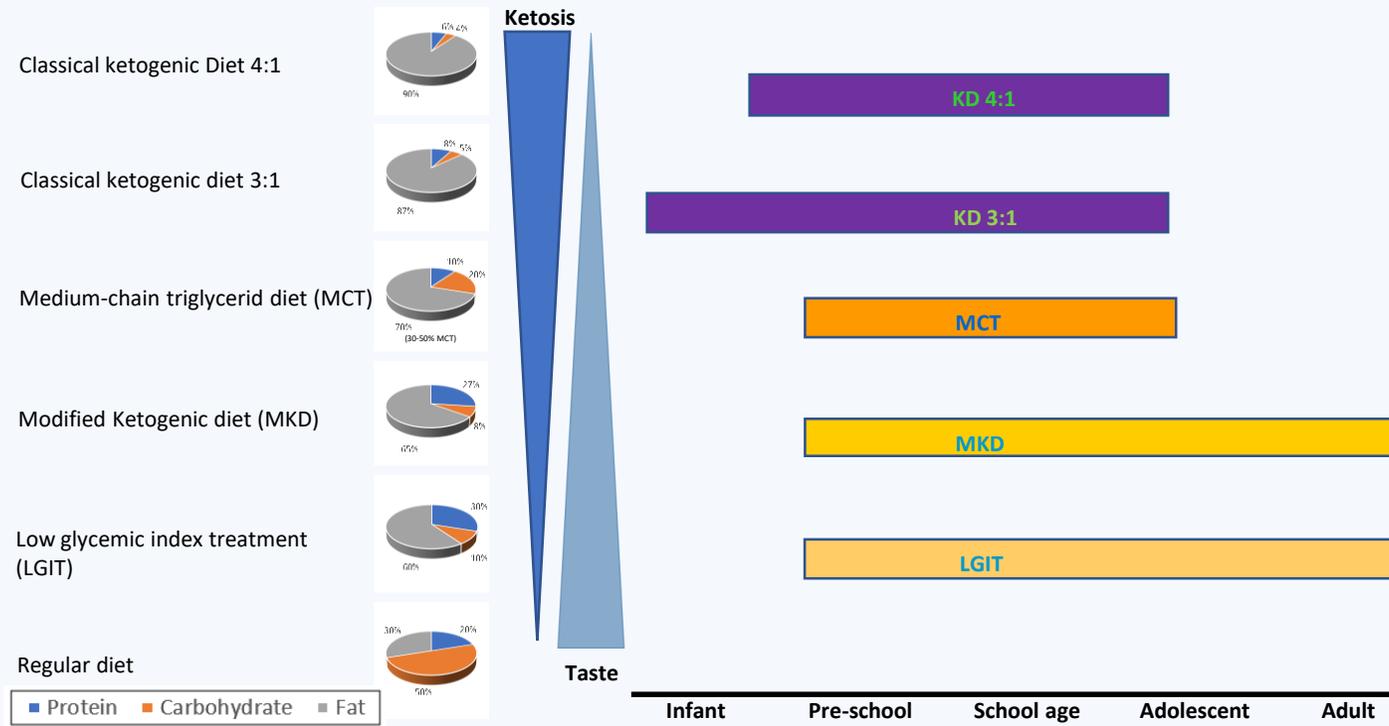
Algorithm summarizing the relationship between obesity and migraine progression



Dieta chetogenica ed emicrania

- Quanto fin qui riportato, deve far ritenere il ruolo della dietoterapia nella gestione dell'emicrania, marginale e ancora in parte sconosciuto
- Si discosta da ciò la dieta chetogenica il cui ruolo nell'emicrania è studiato fin dagli anni '20 del XX secolo.
- La differenza sostanziale consiste nel fatto che con tale dieta si ha in realtà l'apporto di sostanze biologicamente attive (i corpi chetonici) che vengono creati dall'organismo grazie alla dieta.
- In sostanza è una terapia farmacologica in cui il farmaco non viene assunto ma creato dall'organismo grazie alla dieta.





An Experience with a Ketogenic Dietary in Migraine*

By TRUMAN G. SCHNABEL, M.D., Philadelphia, Pa.

THE practice of dietary restriction for the control of hemicranial attacks is well known and doubtless dates back to a time when men or perhaps more often women first experienced such crises. Some migraine victims, long before consulting a physician, have learned to associate their sickness with the ingestion of certain foods and have accordingly omitted them from their dietary often with satisfactory results. The practice has been further extended by physicians who interdict for their patients as nearly as feasibility permits some one of the three great food groups. Even this course has undoubtedly been suggested by patients themselves when they have offered the observation that an increased intake of either carbohydrates, proteins, or fats has been followed by sick headaches and that restriction in one of these three types of food has seemingly been of some benefit. Here and there, either on their own initiative or under direction, individuals have practiced either prolonged or periodic fasting for bilious headaches not without some good effect as it would seem at least to those

*Read before the American College of Physicians, March 8, 1928, New Orleans, La.

who have gone through this experience. Up to the present time various explanations have been offered for the apparent effectivity of either complete or partial dietary restriction in the control of migraine, but many of these explanations are largely theoretical and are open to justifiable adverse criticism.

With a knowledge that diet would seem to have a relationship to the migraine attacks of some individuals it must have occurred to many that the starvation treatment as advocated in epilepsy by Guelpa and Marie (1) abroad and by Geylin in this country must have some reasonable logic in its application. When Wilder (2) in 1921 suggested a high fat diet for the treatment of epilepsy on the hypothesis that the ketone bodies are responsible for the favorable effect of starvation in epilepsy, the conviction of the logic of a ketogenic diet must also have been born home to those who had been observing migraine in relationship to diet. It was only when Peterman (3) in 1925 reported results in the treatment of epilepsy by ketogenic diet that the applicability of this type of diet in migraine suggested itself to me.

There seemed, however, at the time

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1930

KETOGENIC DIET—BARBORKA

1825

MIGRAINE

RESULTS OF TREATMENT BY KETOGENIC DIET
IN FIFTY CASES*

CLIFFORD J. BARBORKA, M.D.
ROCHESTER, MINN.

Early in my experience with the ketogenic diet,¹ it was tried in cases of migraine. Since then Lennox and Cobb,² in their monograph on epilepsy, have stated that it would be of interest to know whether the induction of acidosis is of benefit in cases of migraine. Since the original report from the Mayo Clinic,³ Schnabel⁴ has reported his experience with a ketogenic diet in cases of migraine.

Some of the recent etiologic theories and therapeutic suggestions are of interest in considering the justification of a ketogenic regimen in cases of migraine. R. and S. Weissmann-Netter⁵ found apparent changes in the acid-base balance: the hydrogen ion concentration and alkali reserve are normal in the periods of freedom from

attention to the use of large doses of calcium lactate in an effort to lessen the irritability of the nerves.

The suggestion that migraine is sometimes a phenomenon of protein sensitization is not new. Pagniez⁶ and his associates assumed that migraine is an anaphylactic manifestation. Miller and Raulston⁹ continued the work in this country. Vaughan,¹⁰ Rowe,¹¹ and many others have considered migraine from the standpoint of an allergic manifestation. Curtis-Brown¹² proposed the theory of inherited impaired metabolism with intolerance of nitrogenous foods, a protein-poison theory. They advocated various forms of treatment from the use of peptone to the restriction of certain proteins.

Chiray,¹³ Duval,¹⁴ Diamond,¹⁵ Hetinyi,¹⁶ McClure and Huntsinger,¹⁷ and others have approached the problem from the standpoint of dysfunction of the liver and duodenum. They have called attention to biliary stasis as an etiologic factor. The French literature has emphasized duodenal migraine; in it evidence is presented of disturbed hepatic function as estimated

TABLE 1.—Observations on Patients Whose Conditions Had Been Controlled

Case	Age	Sex*	Attacks Before Treatment	Disease, Years	On Diet, Months	Ketosis	Comment
1	28	♀	About once a week, lasting two to three days	13	23	Always present	Attacks disappeared after two months
2	26	♀	Twice a week, lasting about two days.....	19	7	Always present	Headaches frequent first six weeks on diet; none since
3	29	♀	Two to three times a week, lasting twelve to eighteen hours	19	20	Periodic	Controlled after first two months
4	37	♀	Once a week, lasting twelve to thirty-six hours	27	9	Always present	First month on diet less severe headache every week; then entirely free since
5	33	♀	Two to three a month, lasting two to three days	8	23	Periodic	After first two months free from attacks
6	44	♀	At least two a month.....	32	16	Periodic	Attacks disappeared after two months
7	21	♀	One to two a week, lasting several hours...	4	14	Always present	After two months some relief; after three months arrested
8	52	♀	One to two a week, lasting one to two days, menopause at thirty-eight; no alteration in attacks	25	16	Always present	After two months no headaches
9	23	♀	Cyclic vomiting beginning at age of two years; migraine at 14; attacks about every five to six weeks	21	15	Always present	Controlled since ketosis developed
10	31	..	Once and sometimes twice a week.....	21	18	Almost always present	No headaches after first three weeks
11	30	♀	Three to six weeks.....	17	13	Always present	Attacks controlled since being on diet
12	27	♀	One to three a week lasting about twelve hours	6	9	Periodic	Attacks controlled since fourth week on diet
13	54	♂	Cephalic migraine thirty-eight years; abdominal migraine last two years	58	36	Present one year, periodic since	Both abdominal and cephalic migraine disappeared after six weeks
14	25	♀	Every two to four weeks.....	8	9	Almost always present	One attack in first three months; none since

* In the tables, ♂ indicates male; ♀, female.



Dieta chetogenica dimagrante ed emicrania (case report)

- Nel 2006 un pe
una lettera ad
raccontava del
consorte, emicr
durante e dopo un trattamento dietetico
chetogenico dimagrante
- La casualità di questo evento, diede
scarsa rilevanza all'accaduto, fino ad
un'osservazione analoga effettuata dal
nostro gruppo.

Che tipo di dieta?

Upstate Medical University
Syracuse, NY

REFERENCES

1. *BusinessWeek*. September 5, 2005; 78.
2. Silberstein SD, Neto W, Schmitt J, Jacobs D. Topiramate in migraine prevention. *Arch Neurol*. 2004;61:490-495.

Can Ketosis Help Migraine Sufferers? A Case Report

The ketogenic diet has long been used in the treatment of severe epilepsy in children, adolescents, and adults and seems to be well tolerated.^{1,2,3} Even less stringent diets, such as the Atkins diet, have shown promise in the treatment of

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hood, the headaches progressed and were occurring many times a week. She tried multiple lifestyle changes without any change in the frequency of the headaches. Exercise, dieting, and two pregnancies did not alter the frequency.

Numerous medications were prescribed by neurologists over the years. Agents that helped the most included Imitrex, Amerge, and Fioricet. Pharmacy profiles show that in 2004, at the age of 43, the patient was filling prescriptions about every 6 weeks for: Imitrex 50 mg #18, Amerge 2.5 mg #9, and Fioricet #30.

In an effort to lose the weight gained during pregnancy, the patient enrolled in a diet program under medical supervision. Patients undergo a modified fast, taking 3 to 4 high-protein, low-carbohydrate shakes a day. Each shake is 200 calories, and the shakes are the sole calorie source. Ketosis is

induced and monitored on a weekly basis. A caloric restriction of 600 to 800 calories per day is maintained. Blood pressure, blood chemistries, and electrocardiograms are monitored regularly. Most patients stay in ketosis for 4 months or longer, depending on how much weight needs to be lost.

After going into ketosis, my wife went from having almost daily headaches to being completely free of migraines. Her last migraine was in late April, 2004. She maintained ketosis and the modified fast for almost 7 months and then went off her fast and began to eat regular foods. She has continued to be headache-free. She has now gone from daily migraines to going 14 months without an attack and has gradually reintroduced trigger foods such as alcohol and chocolate without getting a headache.

In conclusion, ketosis appears to have cured my wife's migraines. Other refractory migraine sufferers might be willing to enter a period of ketosis to rid them of their headaches. This letter is submitted with the hope of stimulating further research to confirm the benefits of a ketogenic diet on migraines.

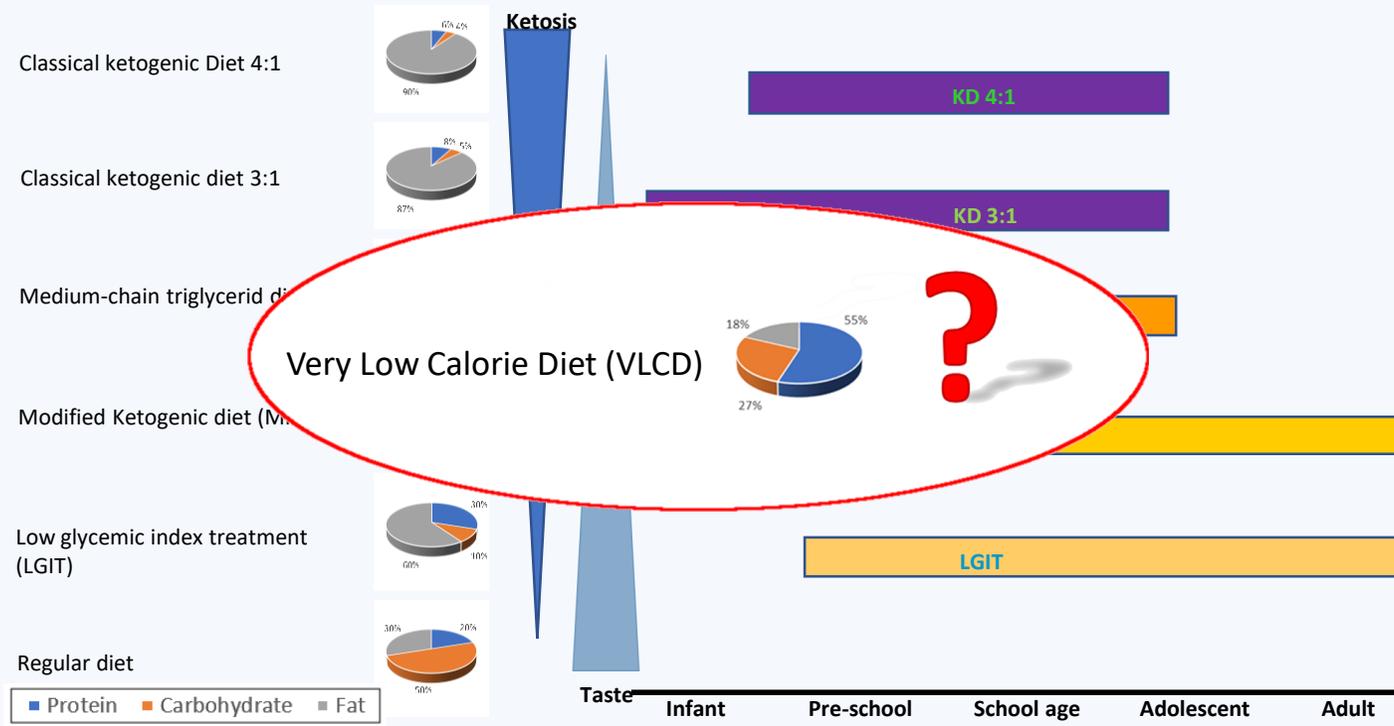
R. Scott Strahlman, MD
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REFERENCES

1. Sinha SR, Kossoff EH. The ketogenic diet. *Neurologist*. 2005;11:161-170.
2. Mady MA, et al. The ketogenic diet: adolescents can do it, too. *Epilepsia*. 2003;44:847-851.
3. Sirven J, et al. The ketogenic diet for intractable epilepsy in adults: preliminary results. *Epilepsia*. 1999;40:1721-726.
4. Kossoff EH, Krauss GL, McGrogan JR, Freeman JM. Efficacy of the Atkins diet as therapy for intractable epilepsy. *Neurology*. 2003;61:1789-1791.
5. Murphy P, Likhodii S, Nylen K, Burnham WM. The antidepressant properties of the ketogenic diet. *Biol Psychiatry*. 2004;56:981-983.



Che tipo di dieta?



VLCD (Very low calorie diet)

- 600 – 800 Kcal/die
- Basso contenuto di carboidrati: chetogenica (**VLCKD**)
- Alto contenuto di carboidrati: non chetogenica (**VLCD**)

VLCKD

- Pro: vantaggi della KD + vantaggi del digiuno
- Contro: dieta estrema dalla durata limitata

Efficacia della dieta chetogenica come terapia di profilassi dei pazienti emicranici: studio randomizzato controllato in doppio cieco



VLCKD (Very Low Calorie Ketogenic Diet)

Acqua (2L/die)



Supplemento proteico
(\cong 15gr X4)



- 1.2-1.4 gr/Kg proteine/die
- <50 gr carboidrati/die
- 10-20 gr lipidi/die
- Vitamine e minerali (K⁺, Mg⁺, Na⁺, Se⁺)

Fino a 200gr X2 (ben condito)



100-200 gr/die



Efficacia della dieta chetogenica come terapia di profilassi dei pazienti emicranici: studio randomizzato controllato in doppio cieco



- Due sorelle emicraniche obese in attesa di sottoporsi ad un intervento sperimentale di neurostimolazione compliavano il diario delle cefalee pur non essendo in profilassi.

Diet transiently improves migraine in two twin sisters: possible role of ketogenesis?

Functional Neurology 2013; 28(4): 305-308

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 Giulio Sirianni, MD^c
 Gianluca Coppola, PhD^d
 Martina Bracaglia, MD^e
 Alessandra Cardillo, MD^b
 Lorenzo De Nardis, MD^b
 Francesco Pierelli, MD^f

- Intanto, si rivolsero al dietologo per perder peso e furono sottoposte a 3 cicli di dieta chetogenica dimagrante fortemente ipocalorica.

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- Durante i periodi di chetogenesi, le crisi di cefalea si riducevano drasticamente per poi ripresentarsi al termine del periodo di chetogenesi e ridursi nuovamente alle chetogenesi successive.

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Summary

The ketogenic diet is a high-fat, low-carbohydrate diet long used to treat refractory epilepsy; ketogenesis (ketone body formation) is a physiological phenomenon also observed in patients following low-carbohydrate, low-calorie diets prescribed for rapid weight loss.

We report the case of a pair of twin sisters, whose high-frequency migraine improved during a ketogenic diet they followed in order to lose weight. The observed time-lock between ketogenesis and migraine improvement provides some insight into how ketones act to improve migraine.

KEY WORDS: ketogenic diet, migraine, prophylaxis, weight loss.

Pt1	Months											
	January	February	March	April	May	June	July	August	September	October	November	December
1	3		Diet on	2		Diet on			Diet on			
2	3			2	2	2						
3	3				3							
4					2						2	
5		2									2	
6		3			3		2			2		
7	2				3		3			3		
8	3	3			2						2	
9	3	3							1 ^a			
10		3							1 ^a			
11	3							2				
12	3				3			2				
13		2			2			2				
14		3		2								2
15		3		3							2	1
16	3										2	
17	3									2	2	
18	2	3								2		
19												
20												
21												
22	3	2										2
23		3					2					2
24		3					2					3
25		3										
26	2	2										
27	3							2				2
28	3		Diet off	2		Diet off		2	Diet off		2	3
29				3							2	
30				1				2				
31								2				
	6/15/1.3	5/14/1.4	0/0/0	3/7/0.5	3/8/0.7	1/1/0.1	2/4/0.3	3/7/0.5	1/2/0.1	2/5/0.3	3/7/0.5	3/7/0.5

165 cm; Patient 1 weighed 78 kg with a body mass index (BMI) of 28.65, while Patient 2 weighed 73 kg with a BMI of 26.81 –, they consulted a nutritionist who prescribed a weight-loss KD (<1 g/kg/day carbohydrates; 1.2-1.6 g/kg/day proteins) comprising three daily meals consisting of ad hoc developed dietary products (meal replacements by S.D.M., Genola, Italy) starting with a meal of meat (200 g) and fish (100



Dieta chetogenica dimagrante ed emicrania

(Studio prospettico)

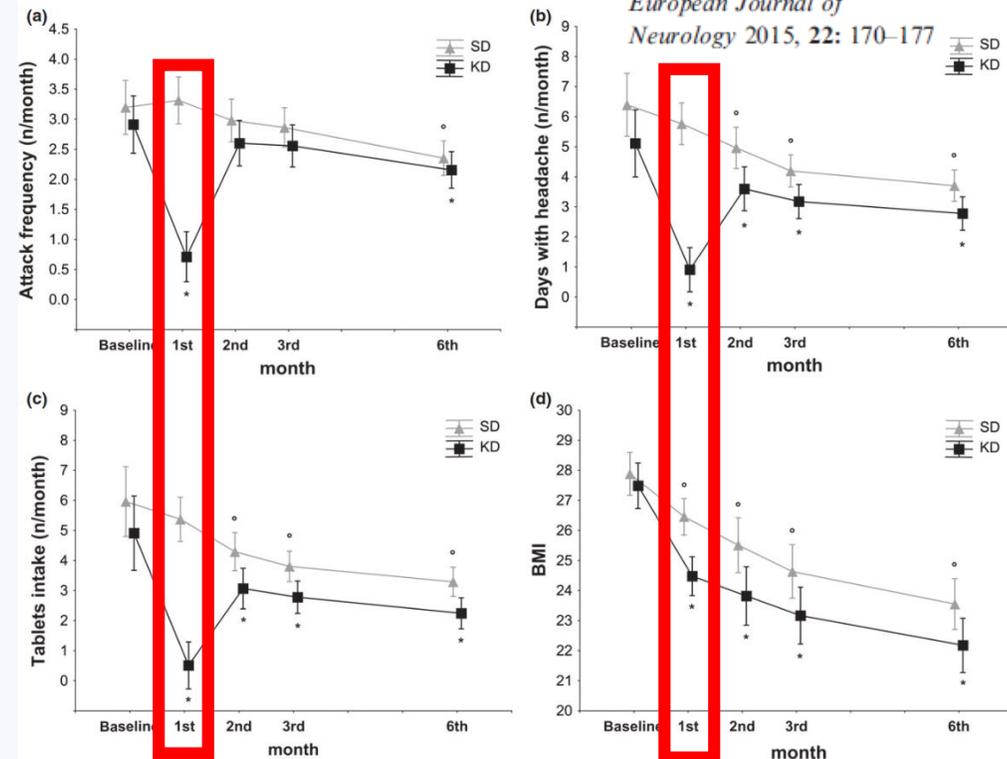
- Per confermare la nostra osservazione aneddotica, abbiamo effettuato uno studio osservazionale prospettico.
- Abbiamo reclutato 95 pazienti sovrappeso/obesi presso un servizio di dietologia che desideravano sottoporsi ad un trattamento dimagrante.
- In 50 hanno seguito una dieta dimagrante standard (SD) per 6 mesi, in 45 una chetogenica dimagrante (KD) di un mese seguita da 5 mesi di dieta dimagrante standard.
- Solo durante la chetogenesi, a prescindere dal dimagrimento, vi fu un miglioramento della cefalea.

ORIGINAL ARTICLE

Migraine improvement during short lasting ketogenesis: a proof-of-concept study

C. Di Lorenzo^a, G. Coppola^b, G. Sirianni^c, G. Di Lorenzo^d, M. Bracaglia^e, D. Di Lenola^e, A. Siracusano^d, P. Rossi^{f,9} and F. Pierelli^h

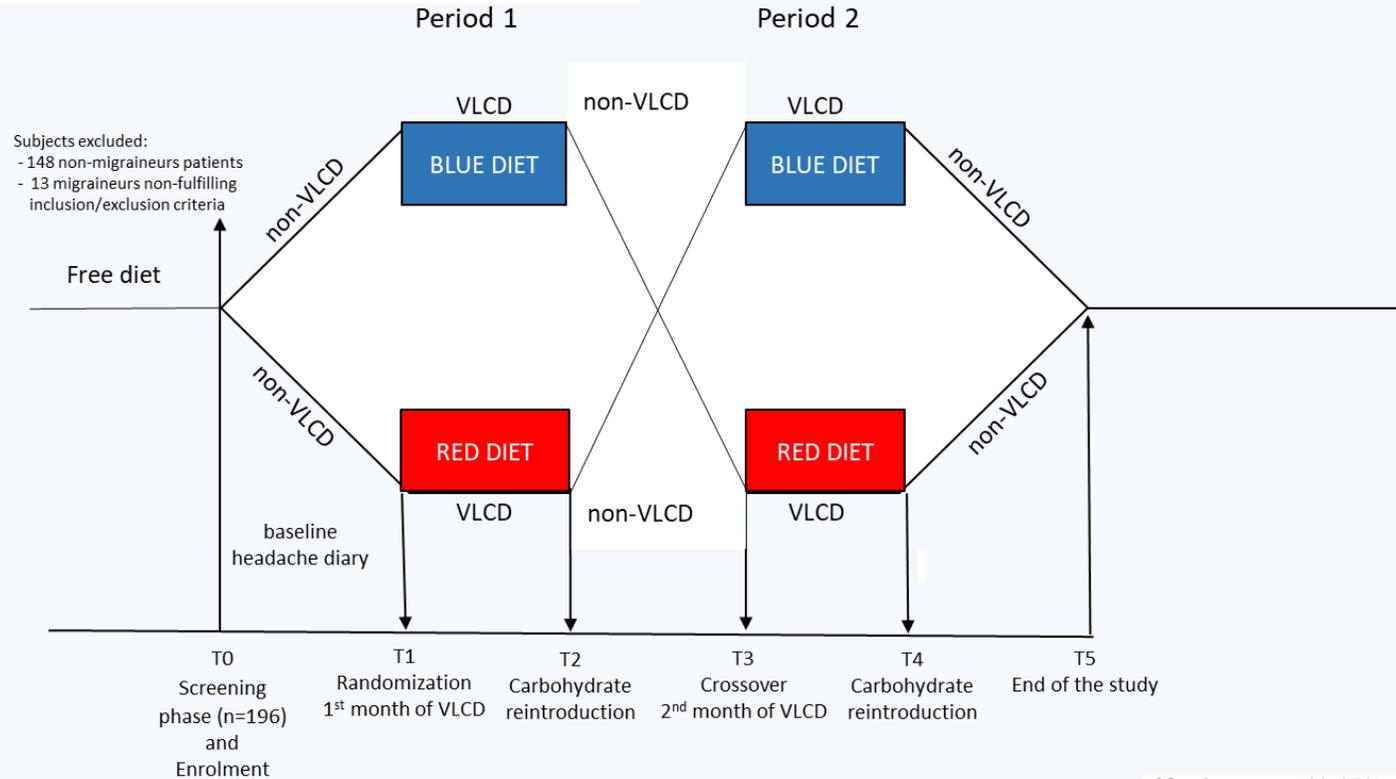
European Journal of Neurology 2015, 22: 170-177



Article

A Randomized Double-Blind, Cross-Over Trial of very Low-Calorie Diet in Overweight Migraine Patients: A Possible Role for Ketones?

Cherubino Di Lorenzo ^{1,*}, Alessandro Pinto ², Roberta Ienca ², Gianluca Coppola ³, Giulio Sirianni ⁴, Giorgio Di Lorenzo ^{5,6}, Vincenzo Parisi ⁷, Mariano Serrao ², Alessandra Spagnoli ⁸, Annarita Vestri ⁸, Jean Schoenen ⁹, Lorenzo M Donini ² and Francesco Pierelli ^{2,10}



Nutrients **2019**, *11*, 1742; doi:10.3390/nu11081742



Studio Crossover in doppio cieco: Completato

Risultati. Dei 35 pazienti arruolati, 6 hanno interrotto lo studio durante il primo mese di dieta: tutti seguivano la dieta “blu”; 29 hanno portato a termine lo studio.

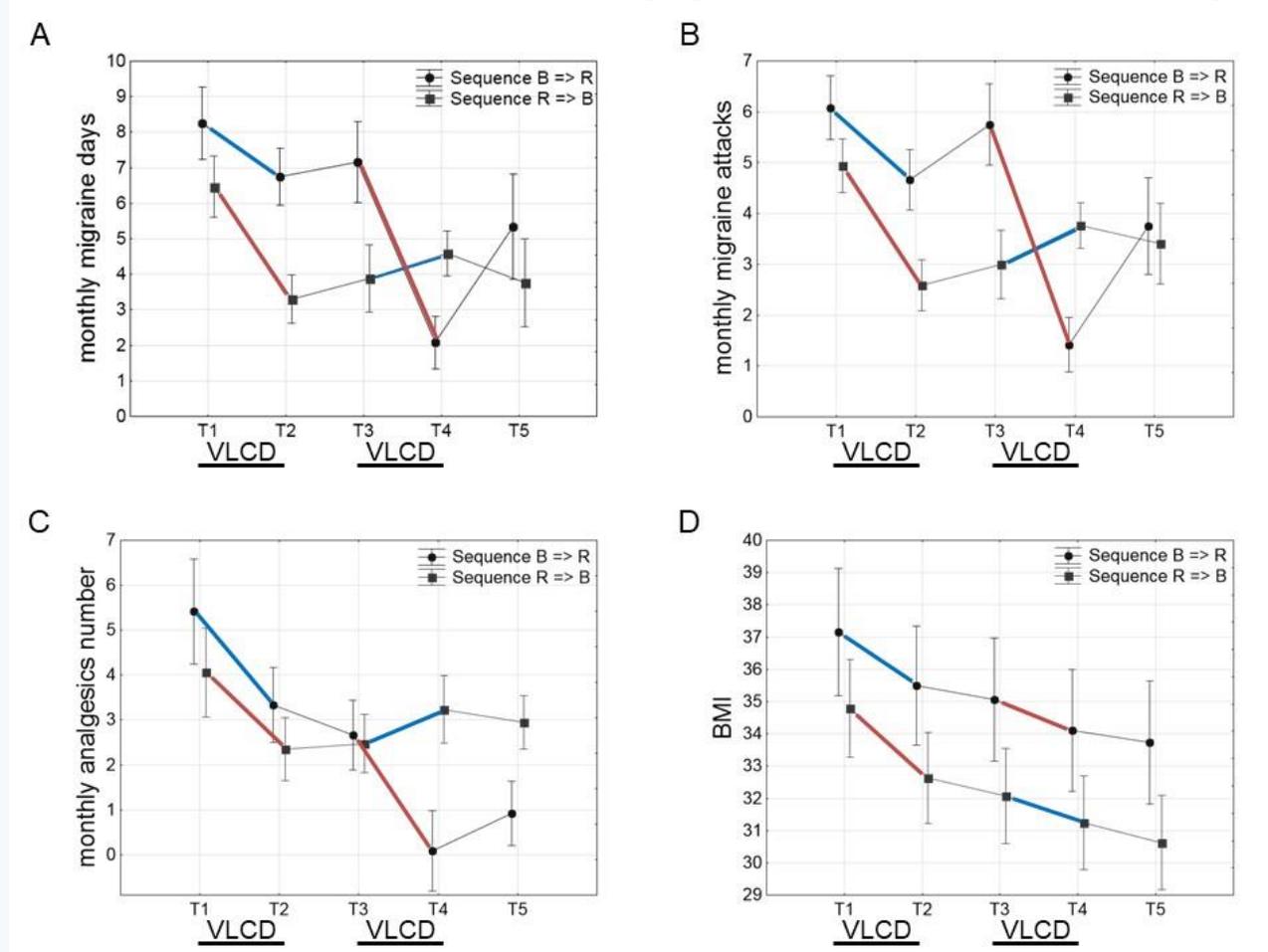
Tasso di risposta (numero di pazienti che hanno avuto una riduzione di frequenza $\leq 50\%$):

- 26 su 29 pazienti (74.28% dei pazienti “intention to treat” (ITT)) hanno risposto alla “dieta rossa”;
- 2 (5.7% dei pazienti ITT) hanno risposto alla “dieta blu”.

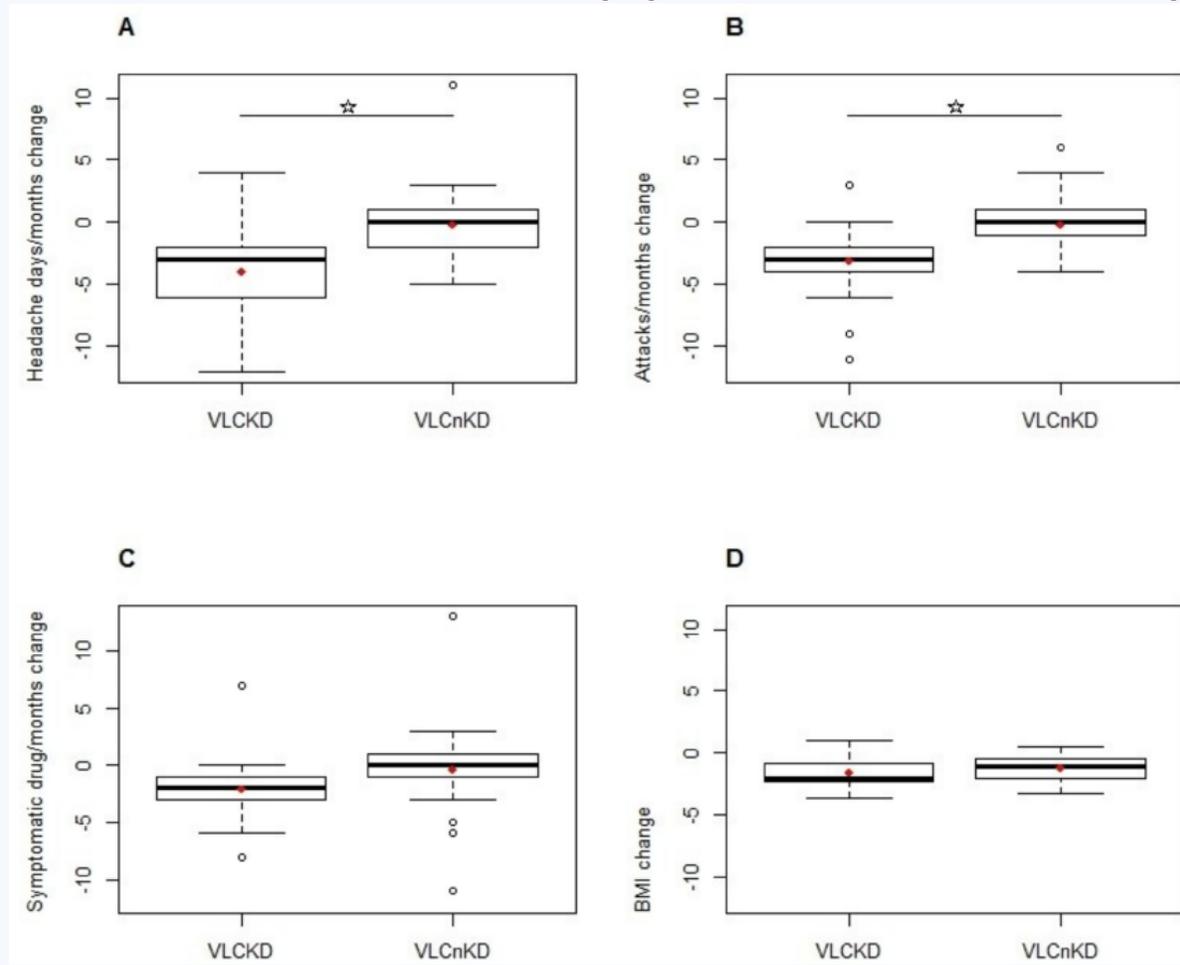
All’apertura del cieco, abbiamo osservato che la “dieta rossa” era chetogenica (VLCKD), e la “dieta blu” era la non-chetogenica (VLCnKD).



Studio Crossover in doppio cieco: Completato



Studio Crossover in doppio cieco: Completato



Alone at home?



76 CONGRESSO NAZIONALE FIMMG METIS 7-10 OTTOBRE 2019

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di Prevenzione e degli Stili di Vita

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«Se fossimo in grado di fornire a ciascuno la giusta dose di nutrimento ed esercizio fisico, né in eccesso, né in difetto, avremmo trovato la strada della salute»
(Ippocrate)

Chetogenesi



Membri 18.000

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Chetogenesi in Neurologia

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10 E LA DIETA CHETOGENICA

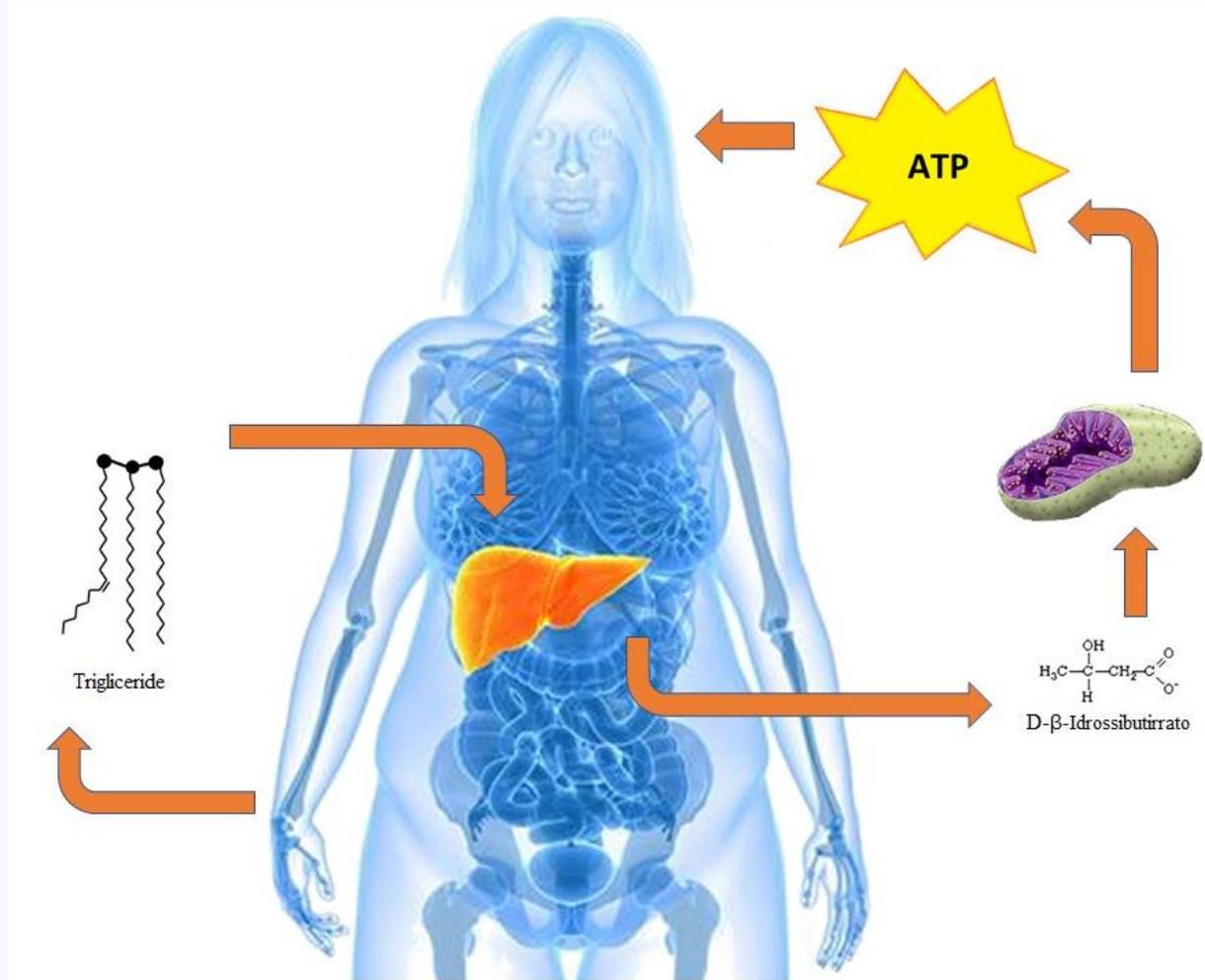
COS'È L'ERITRITTOLO?

ALTRO...

Visualizzazione dei post da 2017

MOSTRA TUTTO





**Grazie per
l'attenzione**

cherub@inwind.it

